



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/733,352	12/08/2000	Kirk P. Bumgarner	SP00-038	2858
22928	7590	10/27/2004	EXAMINER	
CORNING INCORPORATED			HOFFMANN, JOHN M	
SP-TI-3-1			ART UNIT	
CORNING, NY 14831			PAPER NUMBER	
			1731	

DATE MAILED: 10/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/733,352

Applicant(s)

BUMGARNER ET AL.

Examiner

John Hoffmann

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address.

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-30, 33-37, 59 and 60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-30, 33-37 and 59-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

Claims 1, 13-16, 20, 59-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Knowles 4148218.

The invention is disclosed at col. 2, lines 28-48. The clutch mechanically monitors the tension. When the tension becomes sufficiently large, the clutch reduces the speed of the capstan by permitting slippage in the clutch. See McKay 4601208 (col. 1, lines 31-50) which discloses that this is what happens). It is noted that the claims do not require the tension be measured: in applicant's embodiment, the load cell would detect a force equal to twice the tension.

It is noted that the term "load cell" is not defined in the specification. Also, examiner did not find any mention of any particular load cell used. In fact, the drawings do not appear to show a load cell. Furthermore, Examiner could not find a definition for "cell" in a dictionary that would encompass Applicant's invention, but not the Knowles clutch. Since Applicant's cell and Knowles serve the same function (i.e. monitor tension so as to maintain tension) it is deemed that Knowles clutch is a "load cell".

Alternatively, 29 is the load cell. Col. 3, lines 26-31 indicate that one can control the tension by modifying the power output of the clutch. As per equation 12-17 of Halliday and Resnick's "Fundamentals of Physics".  $\text{Power} = (\text{torque})(\text{angular velocity})$ . Since Knowles is using a constant torque device (col. 2, line 31), when one modifies the power the angular velocity has to change – because the torque is constant.

Or to look at it another way: the speed of the capstan is adjusted in response to feedback. Col. 2, lines 35-37 indicates that the clutch works by slipping. From col. 3, lines 26-31: the feed back of the cell causes the power output to change. In otherwords, the slippage rate changes – which will inherently change/adjust the speed of the capstan. Applicants apparatus and the Knowles apparatus work on the same principle – the difference in capstan speeds causes the tension. Thus when one changes the speed, the tension will change.

Claims 59-60 are clearly met.

Claims 13-14 are clearly met.

Claim 16: 33 of figure 2 of Knowles is the pulley which is connected (via 11) to the load cell. The fiber contact causes the pulley to rotate because the pulley is an idler wheel (col.3, line16).

### ***Claim Rejections - 35 USC § 103***

Claims 1-3, 11, 13, 14, 16-22, 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knowles 4148218.

This rejection is made to maintain compact prosecution. It was made to show the claims are not patentable – in the event that the clutch is not a conventional mechanical clutch.

Knowles discloses the invention as claimed, the only thing that Knowles does not readily teach is the monitoring. If the clutch used changes the velocity of the capstan, then the tension will be monitored as claimed – as indicated above.

However, Knowles doesn't explicitly show this conventional clutch – or anything specific about the clutch e claim monitoring. In accordance with the basic laws of physics: one realizes that if one changes power transfer of a clutch (as Knowles discloses), since the total amount of supplied torque is constant, one would want to use a clutch which will change the velocity of the capstan, because one cannot change the power without an inherent change in the velocity.

Alternatively: it would have been obvious to one of ordinary skill to use a clutch that changes the slippage rate when one changes the power output of the clutch. Knowles does not disclose any details about the clutch that is used. However, col. 2, lines 35—37 indicates to one of ordinary skill, that when the torque (applied by the motor to the shaft) gets too high, the clutch will slip. One of ordinary skill would realize that when one changes the "overload" threshold, one would change the amount that the clutch slips. And therefore the final velocity of the capstan will change: more clutch slippage yields a lower velocity (because there is a reduction in angular velocity). Less slippage gives a higher velocity. Therefore the speed of a capstan is changed.

Claim 2: it would have been obvious to draw the fiber as fast as possible so as to make as much fiber as fast as possible.

Claims 3, 21-22: it would have been obvious to make the fiber as strong as strong as possible and to proof test it to the high strength level.

Claim 11: a fiber is suppose to conduct light. IT would have been obvious to make sure that the fiber conducts light through its entire length.

Claims 18-19, 36-37: it would have been obvious to have as much or as little fiber on the spool as desired.

Claim 23: it would have been obvious to sell the spool of fiber to make money. It would have been further obvious to ship it to the buyers so that they don't have to personally pick it up.

Claim 17: There is no disclosure of using a computer. It would have been obvious to have all of the features being connected and/or controlled by a computer so as to easily monitor the process variables, and to store the data so that one can go back and review what went wrong and what went right.

Claims 4-12, 23-30, 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knowles as applied to claims 1-3, 11, 18-19, 21-23 above, and further in view of Bice 5787216.

Knowles does not disclose the ends being accessed or the optical testing. Bice, starting at col. 1, line 26, discloses that one of the most important tests is OTDR which requires that the fiber be such that light travels from one end of the fiber (and back'?) This requires that the light be accessible to both ends of the fiber', because it must travel to the second end if it is to reflect back from that end. The other end can be accessed by light. It would have been obvious to perform OTDR on the Knowles fiber, because it is one of the "most important" tests to make sure the fiber is not damaged.

Claim 5: it would have been obvious to sell the spool of fiber to make money. It would have been further obvious to ship it to the buyers so that they don't have to personally pick it up. This can also be applied to claim 12

The limitations of claims 23-30, 33-35 would have been obvious for the reasons given above.

### ***Response to Arguments***

Applicant's arguments filed 9/16/04 have been fully considered but they are not persuasive.

It is first argued that Knowles does not teach adjusting the speed of a capstan in response to feedback about "measured" tension. The relevance of this is not understood because the claims do not require any measured tension.

It is further argued that Examiner's arguments indicate that tension is being measured. To the degree that this could be true: Examiner's arguments (relevant to the instant point) were directed to a particular embodiment, NOT to the less narrow claim 1. The burden remains on Applicant demonstrate that the present claim language necessitates measurement of the tension.

The rejection indicates that Knowles "mechanically monitors" the tension. Since Applicant does not point out the error in this, it is deemed that Applicant acquiesces this point.

It is further argued that it is well known that a load cell is a transducer used to measure force or weight. Examiner is not qualified in the measurement and testing art to make such a determination without evidence. Applicant has not supplied evidence to support applicant's conclusion.

More importantly, col. 2, line 42 of Knowles indicates that a load cell "includes a transducer". Clearly if one of ordinary skill would recognize that a load cell is a transducer – it is rather difficult for Examiner to believe that Knowles would have indicated that the load cell includes a transducer. The plain reading of Knowles would suggest that a load cell need not include a transducer.

The Beckwith reference was provided by applicant (assumably to show what is meant by the term). Examiner readily agrees that Beckwith discloses a particular load cell. Examiner has used similar strain-gauge arrangements in undergraduate college experiments. Examiner sees no evidence that one would interpret the term "load cell" such that it is limited to the Beckwith strain-gauge load cell. Examiner imagines that there are non-strain-gauge load cells. There is no indication in Beckwith as to what a load cell can or cannot encompass. Rather Examiner interprets Beckwith as at least showing a particular type of strain-gauge load cell – and at best what all strain-gauge load cells comprise. Examiner imagines there are such things as optical strain-gauge load cells that are not of the type Beckwith discloses. Even if Beckwith shows how one of ordinary skill interprets "load cell" – applicant has to clearly and distinctly point out specifically what Beckwith teaches – and where Beckwith shows it. Citing 5 pages



and requiring Examiner to guess what particular lines are relevant is not sufficient to meet applicant's burden.

It is still further argued that Examiner's analysis is similar to saying a car is a bicycle because they both serve to transport. This may be, but evidence is required, not arguments.

The Office has made a prima facie determination that the term "load cell" (in light of the specification) will encompass any structure that encompasses the same function that applicant's load cell does. If Applicant believes the term is narrower in scope, the burden is upon applicant to demonstrate such. The fact that Applicant cannot find a definition such that clutch means a load cell is not very relevant; the Office does not mean to suggest the terms are synonymous: rather that the term "load cell" is very broad and encompasses Knowles clutch – absent a showing to the contrary.

It is also noted that most of the above is likely moot, because Applicant does not disagree with the indication that Knowles feature 29 is a load cell. It is deemed that Applicant concedes that Knowles has a load cell: but it is 29 and not the clutch.

It is also argued that it is clear that Knowles does not monitor the tension as the term is employed in applicant's specification and claims. Such is not clear to Examiner. To make it clear for examiner it is suggested that applicant clearly indicate what the scope of the present "monitored" language is, what error the Examiner made in determining that Knowles lacks monitoring.

It is further argued that Knowles does not teach the monitoring being done electronically. Col. 2, lines 38-56 reasonably suggests to one of ordinary skill that the

tension is monitored electronically. In particular, one would recognize that Knowles load cell is of the Beckwith type – for the same reason that Applicant admits that one would know what a load cell is.

Regarding the 103 rejection that has a discussion on clutch, torque, velocity, etc.: Applicant indicates it is unclear what the relevance of that is to the 103 rejection based on Knowles. The rejection was made to keep prosecution compact. Applicant has argued that Knowles does not monitor tension. In the event that Applicant shows this to be true, the 103 rejection was made to address this. The 103 rejection and the discussion regarding torque, velocity, etc. is to demonstrate that even if Knowles does not teach monitoring tension, such would have been obvious.

It is also argued that one would not make as much fiber as possible, because such would cause the clutch to slip. One of ordinary skill realizes that when you want to change the output of an operation, one usually has to change many process parameters. One would not seek to make more fiber merely by increasing the pull rate. One would have to perform routine experimentation to determine the optimal processing parameters –including the sensitivity of the clutch.

It is argued that examiner used applicant's advantages in hindsight reconstruction. Applicant has not indicated where Applicant disclosed the advantages – and examiner could not find the advantages mentioned. Most importantly, it is well settled that it is not invention to broadly provide for automatic means.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., the accessing (which is limited to mechanical access) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claimed access is not limited to mechanical access.

### **Conclusion**

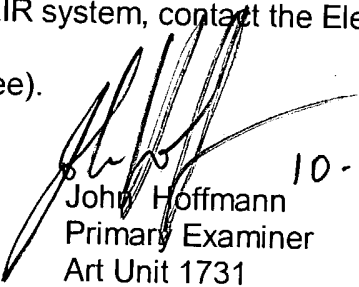
**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



10-25-04  
John Hoffmann  
Primary Examiner  
Art Unit 1731

jmh